The Centers for Disease Control and Prevention's Vessel Sanitation Program is proud to bring to you the following session:

HACCP

While this presentation is primarily intended for cruise vessels under the jurisdiction of the Vessel Sanitation Program it may also be used by anyone who is interested in this topic.

This session should not be used as a replacement for existing interactive training but should be used as an adjunct to a comprehensive training program.

HACCP

Vessel Sanitation Program

2007

Learning Objectives

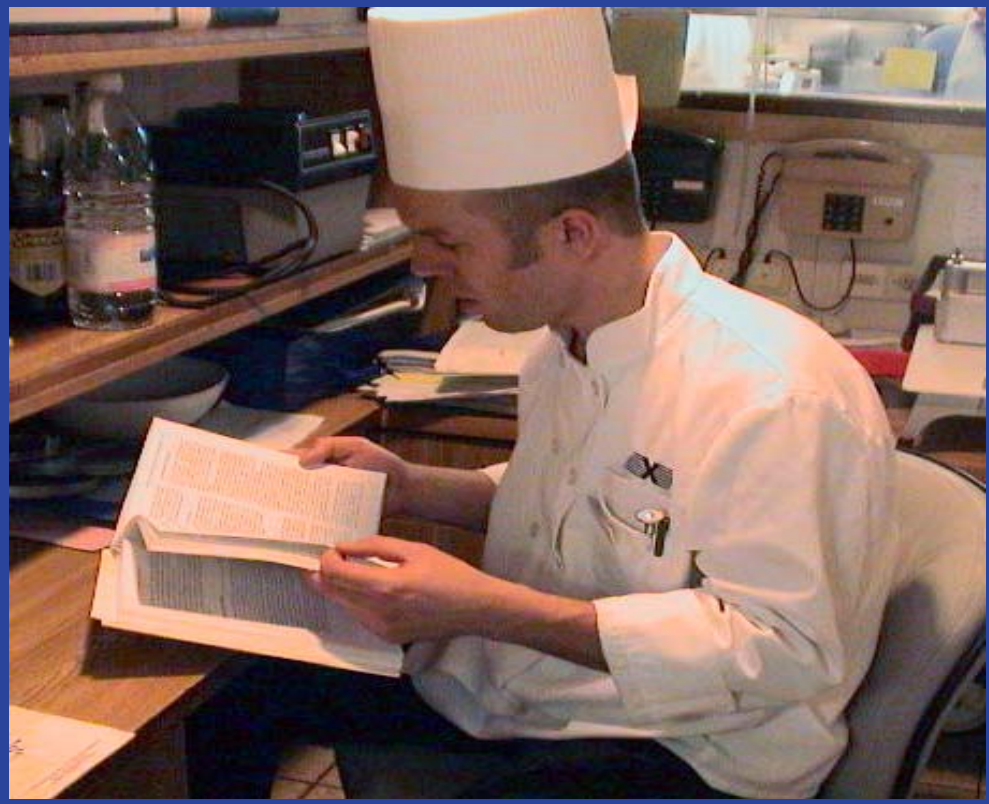
- List the 7 HACCP principles and describe how they apply to food safety.
- List the challenges of implementing a HACCP Plan on a cruise vessel.
- List the ways in which HACCP can be implemented.

Learning Objectives

- List the areas on the vessel where HACCP can be used.

WHAT IS IT?

- HAZARD
- ANALYSIS
- CRITICAL
- CONTROL
- POINT

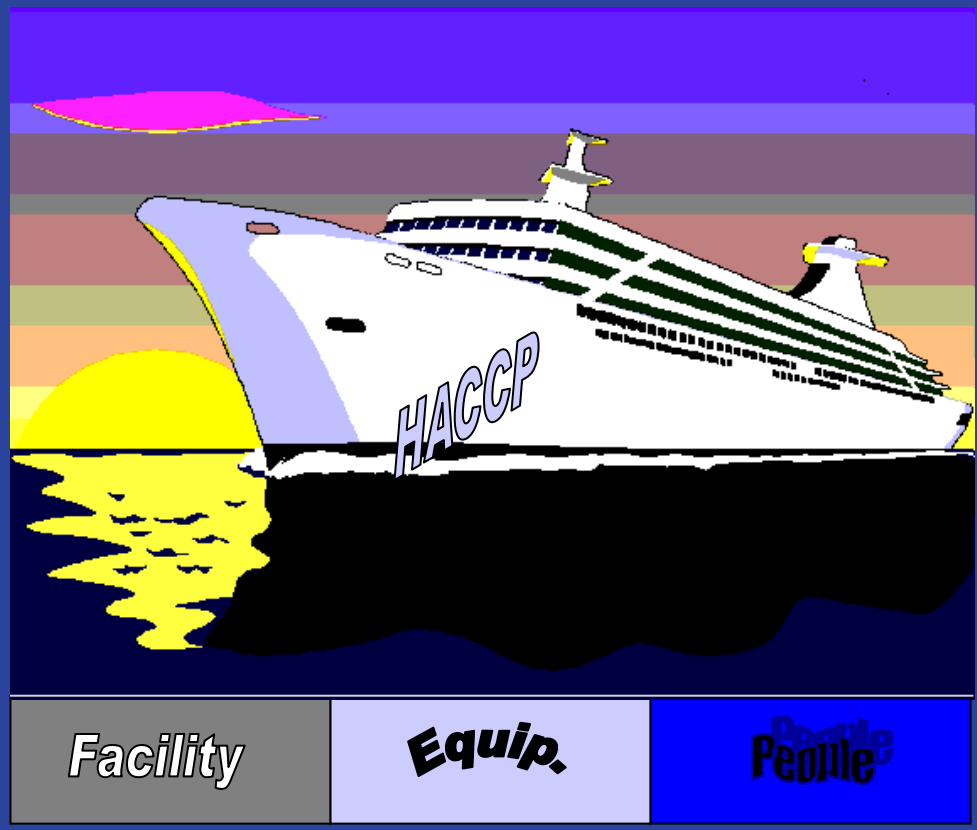


HACCP PRINCIPLES

1. HAZARD ANALYSIS
2. CRITICAL CONTROL POINTS
3. CRITICAL LIMITS
4. MONITOR
5. CORRECTIVE ACTION
6. RECORDS
7. VERIFY

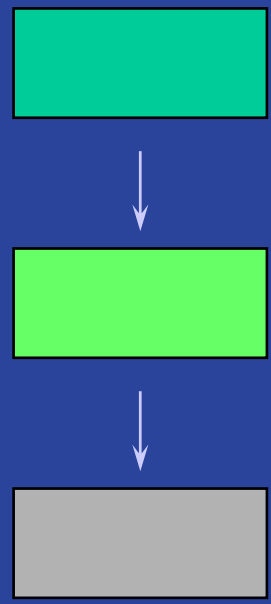
Background

- Facility
- Equipment
- People



GETTING STARTED

- Assemble HACCP Team
- Describe Food Formulation and Recipes
- Intended Use - Population Served
- Develop Flow Diagrams
- Verify Process



1. Hazard Analysis

- **Microbiological / Chemical / Physical Hazards**
- **Risk of Hazard Occurrence: High / Medium / Low**
- **List Significant Hazards**
- **Consider each step in flow of recipe**
    - **Hazard may be associated with preparation steps**

Poultry (Raw)

Bacteria	**High**

2. Critical Control Point

- **Control - Point, Step,**
  or Procedure
- **Hazard - Prevented,**
  Eliminated, or Reduced
  to Acceptable Levels

3. Critical Limits *

Examples:

Temperature	**Time**
Moisture	**pH**
Preservatives	**Water Activity**

* From USPHS *VSP Manual* (1999 *FDA Food Code)*

4. Monitor

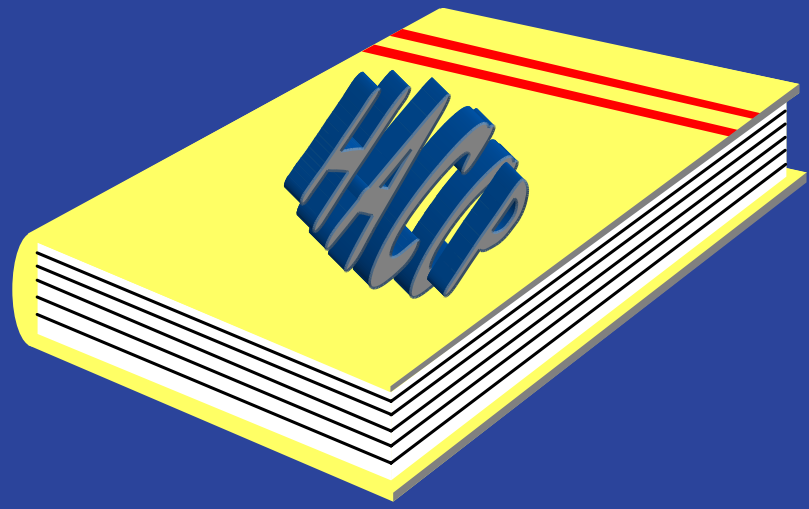
- Sequence of Observations and Measurements
- Tracks System's Operation
- Determines When Control is Lost / Deviation Occurs
- Provides Written Record

5. Corrective Action

- Stuff Happens
- Pre-determine Course of Action
- Fix Cause of Deviation
- Maintain Records for Batch

6. Records

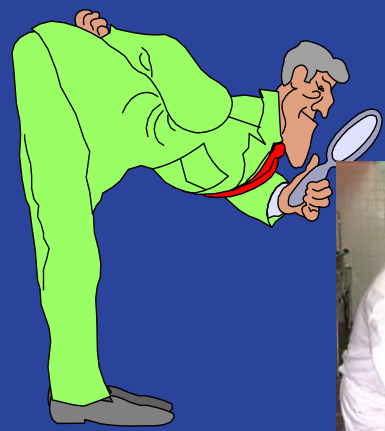
- HACCP Plan
- Flow Diagrams
- Operational Records
- Simple / Meaningful



7. Verify

- Critical Limits are Acceptable
- Plan is Functioning Effectively
- Revalidate HACCP Plan –

  Independent Audits
- Government Oversight



HACCP PRINCIPLES

1. Hazard analysis
2. Critical control point
3. Critical limit
4. Monitor
5. Corrective action
6. Records
7. Verification

HACCP IMPLEMENTATION

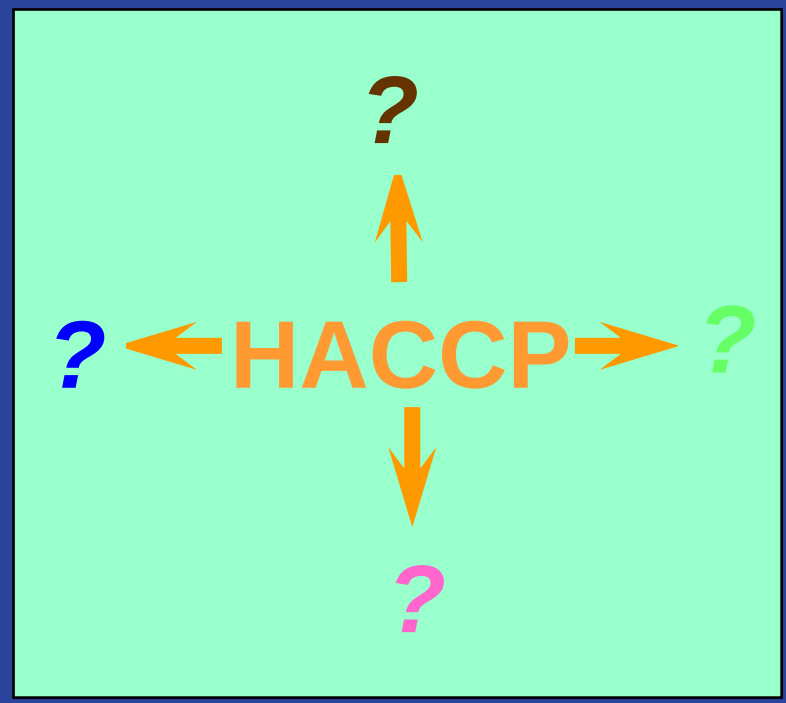
CHALLENGES:

- **Variety and Changing Menus**
- **Different Foods and Sources**
- **Turnover Rate**
- **Economic and Human Resources**

HACCP IMPLEMENTATION

STRATEGIES:

- **Classical**
- **Categorical**
- **Process**



HACCP IMPLEMENTATION

CLASSICAL

For Each PH Food:

A. Analyze Hazards

B. Decide CCP's

C. Monitor Each CCP

E. ….

HACCP IMPLEMENTATION

CATEGORICAL

By Food Categories:

A. Soups, Stews and Gravies

B. Fresh Foods

C. Thick Meats

D. Thin Meats

E. --------

HACCP IMPLEMENTATION

By Process:

How many times does food pass through danger zone?

- Less than one time = Process 1
- One time = Process 2
- Two times or more = Process 3

HACCP IMPLEMENTATION

PROCESS

All Foods Follow Specific Common Steps.

- **Receive - Store - Prepare - Cold Hold – Serve (P1)**
- **Receive - Store - Prepare - Cook – Serve (P2)**
- **Receive - Store - Prepare - Cook - Hot Hold – Serve (P2)**
- **Receive - Store - Prepare - Cook - Cool – Serve (P3)**
- **Receive - Store - Prepare - Cook - Cool - Reheat – Hot Hold-Serve (P3)**

HACCP ACTIVITY

Objectives

- Analyze Hazards
- Determine Critical Control Points (CCP)
- Set Critical Limits for Each CCP
- Plan Monitoring Methods
- Map Standard Operating Procedures
- Design Flow Diagram

HACCP PRINCIPLES

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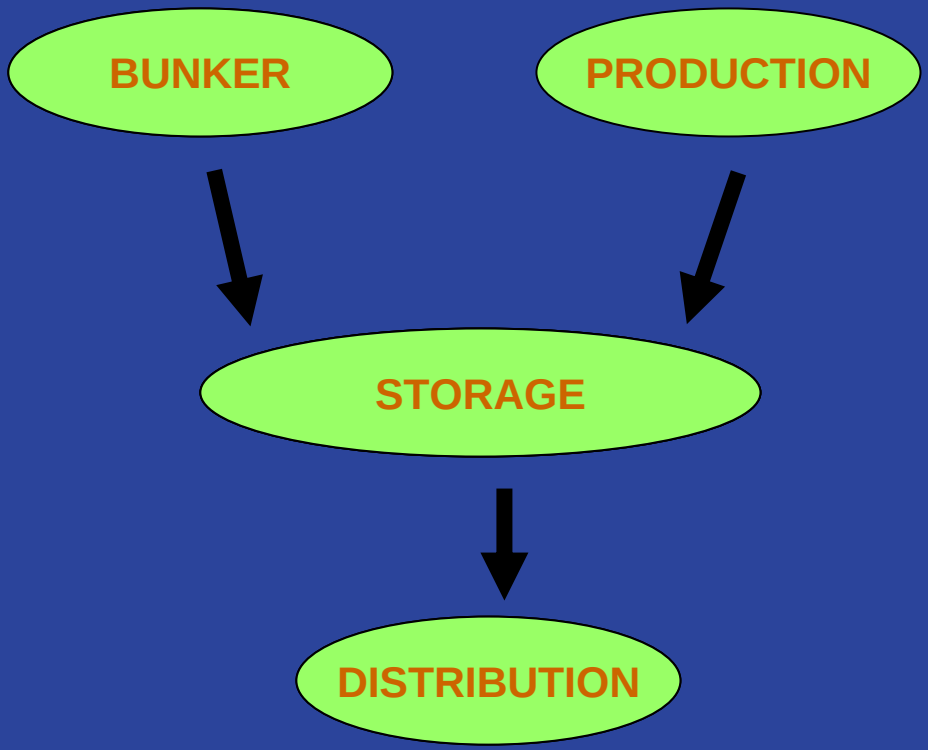
HACCP IMPLEMENTATION

ENGINEERING HACCP – Potable Water



Resources and References

- www.cdc.gov
  - www.cdc.gov/nceh/vsp
- www.fda.gov
  - www.cfsan.fda.gov
- www.usda.gov
  - www.fsis.usda.gov